

REMARKS

Applicants appreciate the Examiner's thorough examination of the present application as evidenced by the Office Action. Applicants have carefully examined the cited references and have amended Claims 1, 3-13, 15, 16, 21-24, 26-29, 31-34, 36-38, 40, and 41 to clarify the patentable recitations therein. Claims 2, 25, 30, 35, and 39 have been canceled. Applicants request reconsideration and allowance in view of the above amendments and the following remarks.

Status of the Claims:

Claims 24-33 stand rejected under 35 U.S.C. 101 as directed to non-statutory subject matter. Claims 1-6, 8-10, 12-14, 21-26, 28, and 30-41 stand rejected under 35 U.S.C. 102(e) as anticipated by U.S. Patent Publication No. 2003/0152028 to Raisanen et al. ("Raisanen"). Claims 7, 17-20, and 27 stand rejected under 35 U.S.C. 103(a) as unpatentable over Raisanen in view of U.S. Patent Publication No. 2004/0095914 to Katsube et al. ("Katsube"). Claim 11 stands rejected under 35 U.S.C. 103(a) as unpatentable over Raisanen in view of U.S. Pat. No. 6,628,610 to Waclawsky et al. ("Waclawsky"). Claims 15, 16, and 29 stand rejected under 35 U.S.C. 103(a) as unpatentable over Raisanen in view of U.S. Pat. No. 6,999,474 to Goyal et al. ("Goyal").

Amended Claims 24, 26-29, and 31-33 Satisfy 35 U.S.C. 101:

Claims 24, 26-29, and 31-33 have been amended to recite that the computer program product comprises program code embodied in a computer-executable medium, and that the various program codes when executed are configured to carry out the recited actions. Accordingly, Applicants submit that amended Claims 24, 26-29, and 31-33 are directed to statutory subject matter under 35 U.S.C. 101.

Amended Independent Claims 1, 24, 34, 40, and 41 are Not Anticipated by

Raisanen:

Amended Claim 1 recites:

1. (Currently Amended) A method of managing Quality of Service (QoS) in a communication network, the method comprising:
for each of a plurality of applications of a service provider which will communicate across the communication network, requesting a level of QoS using QoS requests from the service provider; and
allocating levels of QoS to individual ones of the applications of the service provider in response to the QoS requests.

Accordingly, a QoS level is requested for each of a plurality of applications of a service provider, and a QoS level is allocated to individual ones of the applications in response to the QoS requests. The requirements of individual applications can therefore be accommodated by requesting and allocating QoS levels on an application-by-application basis. Each of the applications may thereby request and/or be allocated different QoS levels for communications across the communication network.

In rejecting original Claim 1, the Office Action cites lines 4-17 of paragraph 0064 of Raisanen, which is repeated below:

[0064] The terminal 12 (FIG. 1) may inform the desired QoS for the IP call in its request for example by listing maximum/minimum values for the different QoS parameters. The terminal 12 may for example list the maximum value of the delay acceptable for the IP call and the bandwidth needed by the call. After having received the request, the CPS asks the QM whether the IP network has enough QoS resources for providing the maximum/minimum QoS parameter values on the route (block 62) between access nodes E and G. To find out this, the OM carries out a calculation using the QoS data included in the QoS database. If the result of the calculation shows that the maximum/minimum QoS parameter values can be provided, the QM advises the CPS to accept the IP call set-up request sent by the terminal 12 (block 63). On the other hand, if the QoS needed by the IP call cannot be provided, the QM advises the CPS to reject the request (block 64).

The cited portion of Raisanen describes that an IP communication terminal 12 can request a QoS level for use in making an IP call. The QoS manager (QM) determines "whether the IP network has enough QoS resources for providing the

maximum/minimum QoS parameter values on the route (block 62) between access nodes E and G" to complete the IP call between the calling IP terminal 12 and the called IP terminal 11. If enough QoS resources are present, then the QoS manager (QM) notifies the call processing server (CPS) to accept the IP call from the terminal 12.

Raisanen therefore describes that QoS levels are requested for an entire communication terminal, and that the requested QoS level is either allocated or denied for the entire communication terminal. Raisanen does not appear to recognize the need to manage different QoS levels for a plurality of applications on a communications terminal. Moreover, Raisanen does not describe or suggest that QoS levels can be requested for a plurality of applications on a communication terminal, or that different levels of QoS can be allocated to individual applications on a communication terminal.

Applicants therefore submit that Raisanen does not describe or suggest either of the two paragraphs of amended Claim 1, and therefore submit that Raisanen cannot anticipate amended Claim 1.

Amended independent claims 24 and 34 contain similar recitations to Claim 1 and are submitted to not be anticipated by Raisanen for substantially the same reasons as Claim 1.

Amended independent Claim 40 is similar to Claim 1, but recites that a different QoS level is allocated to each one of a plurality of applications of a service provider. As explained above, Raisanen allocates a QoS level to an entire communication terminal. Raisanen does not describe or suggest that QoS levels are requested for a plurality of applications on a communication terminal, or that different levels of QoS are allocated to different individual applications on the communication terminal. Applicants therefore submit that Raisanen does not describe or suggest the recitations of amended Claim 40, and therefore submit that Raisanen cannot anticipate amended Claim 40.

Amended independent Claim 41s similar to Claim 1, but recites that a different QoS level is allocated to each one of a plurality of IP addresses associated

with different applications of a service provider. As explained above, Raisanen allocates a QoS level to an entire communication terminal. Raisanen does not describe or suggest that QoS levels are requested for a plurality of applications on a communication terminal, or that different levels of QoS are allocated to different IP addresses associated with different applications of a communication terminal. Applicants therefore submit that Raisanen does not describe or suggest the recitations of amended Claim 41, and therefore submit that Raisanen cannot anticipate amended Claim 41.

Allowance of amended Claims 1, 24, 34, 40, and 41 is respectfully requested.

The dependent claims are submitted to be patentable at least based on the patentability of the independent claims from which they depend. Moreover, Applicants submit that the dependent claims provide independent bases for patentability for at least the reasons explained below.

Amended Dependent Claims 3, 4, 5, 6, 8-10, 21-23, 26, 33, and 36 are Not Anticipated by Raisanen:

Amended Claim 3 is further directed to how each of the applications can request and be allocated differing QoS levels. In particular, Claim 3 recites that a plurality of QoS requests are generated, where each of the QoS requests is for a different one the plurality of applications of the service provider. As explained above, Raisanen describes that an IP communication terminal can request and be allocated a QoS level. Raisanen does not describe or suggest that QoS requests can be generated for each of a plurality of individual applications on a communication terminal. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 3, and therefore request allowance thereof.

Amended Claim 4 adds to Claim 3 by further reciting that a QoS level is allocated to a particular one of the service provider applications in response to a QoS request from the particular application. Raisanen does not describe or suggest that a QoS level is allocated to a particular application among a plurality of applications on a communication terminal in response to a QoS request from the particular

application. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 4, and therefore request allowance thereof.

Amended Claim 5 adds to Claim 3 by further reciting that a network capacity level is allocated for communications by a particular one of the applications of the service provider in response to a QoS request from the particular application. Raisanen does not describe or suggest that a network capacity level is allocated for communications by a particular application among a plurality of applications on a communication terminal in response to a QoS request for the particular application. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 5, and therefore request allowance thereof.

Claim 36 contains similar recitations to Claim 5 and is submitted to not be anticipated by Raisanen for at least the reasons explained for Claim 5.

Amended Claim 6 adds to Claim 5 by further reciting that communications through the communication network by the particular one of the applications are restricted to the allocated network capacity level. Raisanen does not describe or suggest that communications from a particular application among a plurality of applications on a communication terminal can be restricted to an allocated network capacity level. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 6, and therefore request allowance thereof.

Claim 26 contains similar recitations to Claim 6 and is submitted to not be anticipated by Raisanen for at least the reasons explained for Claim 6.

Amended Claim 8 recites that an allowed information delay level for communications through the communication network is allocated to a particular one of the applications of the service provider in response to a QoS request for the particular application. Raisanen does not describe or suggest that an allowed information delay level for communications through a communication network can be allocated to a particular one of a plurality of applications on a communication terminal in response to a QoS request for the particular application. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 8, and therefore request allowance thereof.

Amended Claim 9 recites that an allowed information loss rate for communications through the communication network is allocated to a particular one of the applications of the service provider in response to a QoS request for the particular application. Raisanen does not describe or suggest that an allowed information loss rate for communications through a communication network can be allocated to a particular one of a plurality of applications on a communication terminal in response to a QoS request for the particular application. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 9, and therefore request allowance thereof.

Amended Claim 10 recites that an allowed packet size for communications through the communication network is allocated to a particular one of the applications of the service provider in response to a QoS request for the particular application. Raisanen does not describe or suggest that an allowed packet size for communications through a communication network can be allocated to a particular one of a plurality of applications on a communication terminal in response to a QoS request for the particular application. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 9, and therefore request allowance thereof.

Amended Claim 21 recites that allocation of the requested QoS level includes notifying a broadband remote access server of the QoS levels allocated to particular applications of the service provider. Raisanen describes in paragraph 0064 that the QoS manager (QM) allocates/denies allocation of a QoS level to an entire communication terminal. Raisanen does not describe or suggest that a broadband remote access server can be notified of QoS levels allocated to particular applications of a service provider. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 21, and therefore request allowance thereof.

Claims 32 and 38 contain similar recitations to Claim 21 and are submitted to not be anticipated by Raisanen for at least the reasons explained for Claim 21.

Amended Claim 22 recites that allocation of the requested QoS level includes notifying a routing gateway of the QoS levels allocated to particular applications of the service provider. Applicants submit that Raisanen does not anticipate amended

Claim 22 for at least the reasons explained above for Claim 21, and therefore request allowance thereof.

Claim 33 contains similar recitations to Claim 22 and is submitted to not be anticipated by Raisanen for at least the reasons explained for Claim 22.

Amended Claim 23 recites that the individual applications are notified of their allocation QoS levels. Raisanen describes in paragraph 0064 that if enough QoS resources are present, the QoS manager (QM) notifies the call processing server (CPS) to accept the IP call from the terminal 12. Raisanen does not describe or suggest that the QM notifies the terminal 12 of the QoS level that it has been allocated and, much less, does not describe or suggest that individual applications on the terminal 12 can request various QoS levels or that the individual applications can be notified of their allocated QoS levels. Consequently, Applicants submit that Raisanen does not anticipate amended Claim 23, and therefore request allowance thereof.

CONCLUSION

In view of the above amendments and remarks, Applicants respectfully request withdrawal of all objections and rejections and the allowance of all claims in due course. If, in the opinion of the Examiner, a telephonic conference would expedite the examination of this matter, the Examiner is encouraged to contact the undersigned by telephone at (919) 854-1400.

Respectfully submitted,




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Page 18

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Audra Wooten